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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,574	09/19/2005	Hiroyuki Kurimura	278485US0PCT	9527

22850 7590 07/27/2010

OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER	
MULLIS, JEFFREY C	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
07/27/2010	ELECTRONIC

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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex Parte HIROYUKI KURIMURA, JUN WATANABE,
TAKESHI ODA, and NORIHIRO SHIMIZU

Appeal 2010-000154
Application 10/549,574
Technology Center 1700

Oral Hearing Held: June 9, 2010

Before ADRIENE LEPIANE. HANLON, LINDA M. GAUDETTE, and KAREN M. HASTINGS, *Administrative Patent Judges.*

APPEARANCES:

ON BEHALF OF THE APPELLANT:

JACOB A. DOUGHTY, ESQUIRE
Oblon, Spivak, McClelland, Maier & Neustadet, LLP
1940 Duke Street
Alexandria, Virginia 22314

The above-entitled matter came on for hearing Wednesday, June 9, 2010, commencing at 9:20 a.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Sam Weston, a Notary Public.

THE USHER: Good morning. Calendar No. 19, Appeal No. 2010-000154, Mr. Doughty.

MR. DOUGHTY: Good morning.

JUDGE HANLON: Good morning.

MR. DOUGHTY: May I approach the reporter?

JUDGE HANLON: Yes, please.

MR. DOUGHTY: Thanks.

JUDGE HANLON: You have 20 minutes, and you may begin whenever you're ready.

MR. DOUGHTY: Thank you. May it please the Board, my name is Jacob Doughty, and I represent Hiroyuki Kurimura and his co-inventors, who are the Appellants in this matter.

This Appeal relates to the rejection of the pending claims, as anticipated and/or obvious, over the Moczygembe reference, Moczygembe 838. There were previously two Moczygembe references, and the Examiner withdrew one of the rejections. Claim 1 is directed to a linear block copolymer composition. The composition includes 55 to 95 mass percent of a vinyl aromatic hydrocarbon, such as styrene, and 5 to 45 mass percent of a conjugated diene monomer, such as butadiene, for example. The composition includes a mixture of linear block copolymers. Each linear block copolymer includes three polymer blocks with different molecular

weights. Each linear block is given by the formula S-B-S. It includes the components S-B-S, in which S is the vinyl -- is a polymer block, including the aromatic hydrocarbon -- or vinyl aromatic hydrocarbon, and the B is a polymer block that consists of conjugated diene monomer units. So we have sort of styrene-based polymer blocks on the periphery, and we have a butadiene polymer block that's a homopolymer block in the middle. That's sort of the structure that we're talking about. And the composition has very particular molecular weight characteristics, which are in the claim, but would probably just muddy our discussion today.

The Moczygembe reference discloses a polymer obtained by charges of vinyl aromatic hydrocarbon monomers and conjugated diene monomers. The disclosed polymer composition is obtained by a particular sequence of monomer charges. So the important feature of the Moczygembe reference in terms of obtaining the desired polymer is the sequence of charges that are used to obtain the copolymer. All of the charges in the Moczygembe reference include vinyl aromatic hydrocarbon monomers or a mixture of vinyl aromatic hydrocarbon monomers and conjugated diene monomers, except for the last charge. So, basically, when you look at what they're making in the Moczygembe reference, you'll have a styrene charge, a styrene charge, a styrene and butadiene charge, a styrene and butadiene charge, until you get to the last charge, which is a butadiene charge. And then, after the butadiene charge, they add a coupling agent.

And so, basically, the goal is to obtain -- you have these polymer chains that they've obtained, and then there's a coupling agent, and then they can branch on and create branch copolymers, or radial copolymers, or even

possibly, linear copolymers, also. So you'll have the structure of the blocks that I have just mentioned, with a butadiene homopolymer block, and then a coupling agent, and then a butadiene homopolymer block, and then the other polymer blocks in the end, because the conjugated diene homopolymer block is the last block added, okay, the resulting structure doesn't satisfy the S-B-S that's in Claim 1. So because you have the butadiene being the last block that's added, it's either going to be at the end, or it's going to be in the middle with another butadiene block, separated by a coupling agent. So you'll have butadiene, coupling agent, butadiene in the middle. You won't have a block, butadiene, that's next to a styrene-containing block on both sides, basically is what's going on.

JUDGE HASTINGS: I have a question.

MR. DOUGHTY: Sure.

JUDGE HASTINGS: The Examiner's position in the response to your argument, on page 6 of the Examiner's Answer, is that the claims, since the linear block copolymer composition comprises, the Examiner's position is that it does not exclude a coupling agent, and that when you use the coupling agent, the sequence of B-S, which is the butadiene, styrene, which also is not excluded because you say that your styrene block comprises the vinyl, it doesn't have to be just vinyl, then that the sequence B-S-B-B-S-B reads on the S-B-S formula. What is your response to that?

MR. DOUGHTY: My response is that --

JUDGE HASTINGS: Why is that not correct?

MR. DOUGHTY: Well, my response is -- the important feature in the claim is that the B block is consisting of conjugated diene monomer units.

So basically what you have is the B block, which is joined to the S blocks, okay? So by having the coupling agent, there is no -- there is no B block in the Moczygembe reference that is joined on both sides to a vinyl aromatic monomer component.

JUDGE HASTINGS: So basically, you think that consisting of, for the B block, overrides the comprising of the overall composition?

MR. DOUGHTY: Right. It comprises the S-B-S structure. I mean there can be other things in the periphery, but it has to have the S-B-S structure in the compound. So basically, I mean that's the reason why the invented -- or the invented compositions in Moczygembe don't anticipate, or render obvious, the particular copolymer composition in Claim 1.

There was one interesting thing in the Examiner's Answer that I just wanted to reference, and that was the Examiner's use of the polymers shown in Table 8 of Moczygembe 838. And the thing I wanted to point out in particular was that these are comparative examples, which are indicated in Moczygembe to be inferior to the polymer compositions that are disclosed as being the invented compositions in Moczygembe. And further, the -- so one would expect -- one of ordinary skill in the art, in looking at the teachings of Moczygembe, would not be led to these particular compositions, so I think they're out of the realm of obviousness, for sure.

Then the question turns to whether they're anticipated by the comparative compositions, and I would say that the Examiner's Answer, at the very least, does not provide any sort of rationale for why one would expect that the comparative copolymers in Moczygembe would also have the molecular weight characteristics that are in the present claims in Claim 1.

And I would draw attention, in particular, to the sequence of polymer charges and the amounts in the Moczygembe reference, and the differences that there are between polymer -- the monomer charge amounts in the present application.

The present Application discloses sequences where the same monomer charges are taking place, but there's different amounts of the respective monomers that are charged and, as a result of that, you can have different molecular weight characteristics, and some that fall within the scope of Claim 1 and some that fall outside of the scope of Claim 1. So it's not possible to say, just looking at the comparative examples in Moczygembe, that reference -- those comparative examples would necessarily satisfy the molecular weight characteristics that are in Claim 1.

So, with respect to the comparative examples, we would argue that they can't be obvious because they're comparative examples, at the very least, and that the Examiner's Answer, or the record to date, doesn't provide a basis for concluding that those compounds that are in the comparative examples of Moczygembe necessarily satisfy the requirements in Claim 1.

JUDGE HASTINGS: Well, I think the Examiner's position was that -- he stated that those comparative examples are identical to the invention of the reference, except for using the pure charges, giving rise to the pure blocks. And he had already made the analysis as to why the molecular weight appeared to fall within the distribution here.

MR. DOUGHTY: I guess I would say that they're not identical. I mean just looking, charge for charge, and the amount that's charged, that's what our position is.

JUDGE HASTINGS: Is that argument on the record?

MR. DOUGHTY: With respect to --

JUDGE HASTINGS: With respect to the charges being different and therefore the molecular weight is different?

MR. DOUGHTY: No. I mean the first time the Examiner raised the issue of the comparative examples was in the Examiner's Answer.

Are there any questions?

JUDGE HANLON: No.

MR. DOUGHTY: Thank you very much for your time.

JUDGE HANLON: Thank you.

Whereupon, the proceedings at 9:28 a.m. were concluded.